Pica disorder (Geophagia): a case report
Nanjunda Swamy K.V, Darshan Dewang

Abstract
Pica is an eating disorder typically defined as the persistent eating or mouthing of non-nutritive substances. A dental complication depends on the duration and the type of material eaten leading to abrasion, erosion, staining of teeth, periodontal problems, poor hygiene and halitosis. This paper reports the management of a 22 year old patient with PICA disorder.

Key Words: Pica; Geophagy; magpie

Introduction
Pica is an eating disorder typically defined as the persistent eating or mouthing of non-nutritive substances. The condition's name comes from the Latin word for magpie, a bird that is reputed to eat almost anything.(1-4) Pica is seen in all ages, infants, children, elders, those with developmental disabilities (autism or mentally retarded) and in pregnant women. The true incidence of pica is not known but it is estimated to be 75% in infants, 15% in two-three year old toddlers and 10-33% among the institutionalized mentally retarded children.(5, 6) This paper reports the management of a 22 year old patient with PICA disorder.

Case Report
A 22 year old unmarried female patient professionally an electronic engineer, presented to the dental clinic with pain and swelling in right lower jaw. She was well built and nourished and revealed no significant systemic illness and without any deleterious and par functional habits.

On general physical examination the patient was mild anemic with pallor, well oriented, conscious on oral examination with generalized blanched mucosa, attrition with anterior and posterior teeth, periapical abscess with 46 was noted with poor gingival condition and a thick white non edible material adhering to cervical area of teeth was noted, which was soft and grainy in consistency (Figure 1,2). Someone has really said that mouth is the mirror of systemic condition. On further explicit questioning about particular eating habits, the patient reluctantly disclosed an almost daily consumption of 'chalk piece' over more than four years. She reported having developed a particularly strong craving for such chalk piece, of which she would suck on small pieces until these completely dissolved. She had acquired this habit before joining professional college four year back, and eats two full boxes every day. Initially she used to get pain in abdomen and hypersalivation which later gave her psychological wellbeing. Her past medication history revealed, antidepressant medication, calcium and iron supplements, which was discontinued by her and based on above findings she was diagnosed as pica.

On routine blood investigation her hemoglobin was 9gm%. PA chest X-ray was normal with no other gastrointestinal abnormality on endoscopy. Thus proper history remained the most inexpensive investigation in this case. Later she was treated with iron supplement and through oral prophylaxis was given with endodontic treatment(Figure-3); she was also sent for psychological counseling and advised to listen music, meditation and yoga. She was educated and motivated about the disease and its complications.

Discussion
The word pica comes from the Latin word for magpie, a bird known for its unusual eating habits. Pica is characterized by persistent craving...
and compulsive eating of non-food substances. This has been reported as early as 40 B.C and addressed in medical books as far back in 1563. Pica in humans has many different subgroups, defined by the substance that is ingested. (2-4)

The research that has been done on the causes of pica suggests that the disorder is a specific appetite caused by mineral deficiency in many cases, typically iron deficiency, which sometimes is a result of celiac disease often the substance eaten by someone with pica contains the mineral in which that individual is deficient. However, it is unclear whether pica causes or is the consequence of iron deficiency anemia. In our case, malnutrition was the cause for iron deficiency anemia.

Second, adsorption of Fe\(^{2+}\) and Fe\(^{3+}\) to large active surface area of calcium carbonate may lead to a reduction of available iron in the duodenum. As a consequence the absorption of iron might decrease, resulting in iron deficiency. Third, traces of magnesium silicate commonly found in chalk may cause abrasion and favor increased mucosal sloughing and iron loss. Fourth, geophagia may cause parasitic infestation and iron deficiency. (7)

Pica is currently recognized as a mental disorder. Mental health conditions such as obsessive-compulsive disorder (OCD) and schizophrenia can sometimes cause pica. It is suggested that stress associated with traumatic events is linked to pica disorder such as maternal deprivation, parental separation or neglect, child abuse, disorganized family structure and poor parent-child interaction. Pica may be secondary to hookworm infection with symptoms like bluish hue of the skin, particularly around the mouth which was absent in our case. (2,3) Treatment for pica varies based on the patient's category (e.g. child, developmentally disabled, pregnant or psychopathic) and may emphasize psychosocial, environmental and family guidance approaches.

An initial approach often involves screening for and if necessary treating any mineral deficiencies. In the management of Pica of psychotic etiology, therapy and medication such as (SSRIs) selective serotonin reuptake inhibitors have been used successfully. In the present case patient was educated about the condition referred for psychological counseling and advised to listen music, practice meditation and yoga. (2,3)

Some medications may be helpful in reducing the abnormal eating behavior if pica occurs in the course of a developmental disorder, such as mental retardation or pervasive developmental disorder. They enhance dopaminergic functioning, which is believed to be associated with the occurrence of pica. (2-6)

**Conclusion**

Although pica is a rare condition, in day to day dental practice it may be underestimated. Therefore it is important to remember and enquire about particular eating habits. Thus, proper history remains the most inexpensive investigation.

**Authors Affiliations:** 1 Dr. Nanjunda Swamy K.V, MDS, Associate Professor, Department of Pedodontics, Sri Aurobindo College of Dentistry, Indore, 2. Dr. Darshan Dewang, Dept. of Oral Medicine, Al-Badr Dental College, Gulbarga, India.

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**Address for Correspondence**

Dr. Nanjunda Swamy K.V, MDS, Associate Professor, Department of Pedodontics, Sri Aurobindo College of Dentistry, Indore, Madhya Pradesh, India.

Email: nanju_75@rediffmail.com

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